



Nutri-Facts

Nutrition Overview



Introduction:

The six classes of nutrients are carbohydrates, proteins, fats, vitamins, minerals and water. Carbohydrates, proteins, and fats are energy providing nutrients, while vitamins and minerals are needed for energy metabolism. Water is the most abundant nutrient in the body and is essential for the normal functioning of all the organs in the body.

Carbohydrates

Carbohydrates (CHO) are found in grains, fruits, and vegetables and are the main source of energy in a healthy diet. CHO provide energy to the body in the form of glucose (stored as glycogen), act as building blocks for chemicals made by the body, and are used to repair tissue damage. Unfortunately, today many people think that all carbohydrates are unhealthy and lead to weight gain.

- Carbohydrates should provide 55-60% of person's total daily calories
- Fats should provide 10-15% total daily calories
- Proteins should provide 10-15% total daily calories

The Two Types of CHO Are:

Simple CHO - have one or two sugar molecules hooked together. Examples include: glucose, table sugar, sugars in fruits, honey, sugar in milk (lactose), maple syrup, and molasses. Simple sugars are added to some processed foods and provide extra calories.

Complex CHO - have three or more simple sugars hooked together and are digested into simple sugars by the body. Examples include: whole grains, fruits, vegetables, and legumes (peas, beans). Both starch (digestible) and dietary fiber (indigestible) are forms of complex CHO. Although, dietary fiber does not provide any calories, for health reasons it is recommended that adults eat 20-35 grams of fiber a day. This is achieved by eating more fruits, vegetables, and whole grains.

Proteins

Proteins are found in meat, fish, poultry, dairy foods, beans and grains. Proteins are used by the body to form muscle, hair, nails, and skin, to provide energy, to repair injuries, to carry nutrients throughout the body, and to contract muscle.

Energy from Proteins

Your protein needs are determined by your age, body weight, and activity level. Most people eat 100 to 200 g of proteins each day, which can be more protein than actually needed by the body. Many people eat too much of high-protein foods because they think that proteins make them grow "bigger and stronger". Actually, these excess calories from

proteins can be converted to fat and stored. High-protein intakes also increase fluid needs and may be dehydrating if fluid needs are not met.

Fat Requirements

Fats are an essential part of your diet, regardless of their bad reputation. Fats provide a major form of stored energy, insulate the body and protect the organs. Not all fats are created equal. The three types of fats naturally present in foods are *saturated*, and *mono-* and *polyunsaturated* fats. A fourth type of fat, trans fat, is formed during food processing.

Saturated Fats are solid at room temperature and are found primarily in animal foods (red meats, lard, butter, poultry with skin, and whole milk dairy products); tropical oils such as palm, palm kernel and coconut are also high in saturated fat. Monounsaturated Fats are liquid at room temperature and are found in olive oil, canola oil and peanuts.

Polyunsaturated Fats are liquid at room temperature and are found in fish, corn, wheat, nuts, seeds, and vegetable oils. Saturated, monounsaturated, and polyunsaturated fats should each be less than or equal to 10% of your total daily kcals. Therefore, total fat intake should be less than or equal to 30% of your total daily kcal intake.

Trans Fats are created when foods are manufactured. Currently, food labels do not list the trans fat content of a food but if "hydrogenated oils" are listed under ingredients it indicates the presence of trans fats. The more processed foods you eat, the greater your trans fat intake. Trans fats increase blood cholesterol.

Cholesterol

Cholesterol is made in the liver, is an essential part of body cells, serves as a building block for some hormones (e.g., testosterone and estrogen), and it is required to digest fats. Cholesterol is also consumed in the diet by eating animal products. High intakes of dietary cholesterol and saturated fats are associated with an increased risk for heart disease. The American Heart Association recommends that daily cholesterol intakes should not exceed 300 milligrams (mg.). Red meats and egg yolks are examples of cholesterol rich foods that should be consumed in moderation.

Remember, for optimum health, choose nutrient-dense foods, which contain the fewest calories but the most nutrients. The goal of selecting these foods is not to avoid fat grams, but rather to select foods that contain the essential nutrients without eating an overabundance of calories.

For more information on this and other health and wellness topics, visit
Navy Knowledge Online (NKO) at <http://www.nko.navy.mil> or the
Navy Environmental Health Center (NEHC) at <http://www-nehc.med.navy.mil/hp>.